Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	**) ET Docket No. 01-278**
Review of Part 15	**) RM-9375**
Of the Commission's Rules	**) RM-10051**

To: The Commission

REPLY COMMENTS FROM WARD WHEATON IN RESPONSE TO COMMENTS TO NOTICE OF PROPOSED RULE MAKING

I amWard Wheaton a licensed Amateur Radio Operator WB7VVD Pursuant to Section 1.415 of the Commission's Rules, 47 C.F.R. 1.415 I hereby respectfully submit my reply comments to the Comment to Notice of Proposed Rule Making.

Introduction

The Commission asked for reply comments to the notice RM-10051. I am Chief Electronics Technician, Gila Bend Air Force Auxiliary Field, Barry Goldwater Range Arizona with over 20 years experience in electronics, voice, data, and video communications systems. I have designed and built most of my amateur stations including HF, EME, weak signal VHF-UHF, microwave, laser and amateur TV. I built an Amateur TV Repeater located on White Tank Mountain near Phoenix Arizona. I am very concerned about RM-10051 it proposes to greatly increase both the duration and power of part 15 devices in the 425-435 MHz portion of the 70 cm band. Savi Technology asked for a specific center frequency of 433.92 MHz. This places the proposed RFID interrogation and tags stations co-channel with my repeater input of 434 MHz. The American Radio Relay League (ARRL) made some good comments but the Amateur Television mode was lightly covered. I would like to provide more details to the effect it would have on my repeater and my users to the proposed RFID tags.

Impact to My Amateur Repeater Station

My repeater receiver has a very sensitive receiver with a 9 dB omni antenna with a tower mounted preamplifier and bandpass filter at the top of a 180 ft. tower on top of White Tank Mountain at 3980 ft. elevation overlooking the greater Phoenix area. I noticed on the Savi comments on the Commission's web site that Savi indicates FM voice amateur systems have capture affect to minimize interference. I do not know why they chose to completely ignore the fact that in many areas of the county, amateur television is used on 434 MHz. Because of the limited spectrum in the 420-450 MHz amateur band, AM also known as vestigial sideband modulation is used. As the Commission knows AM television has no capture affect and interference can be seen about 40 dB down in the picture. The Commission gives 45 dB desired to undesired ratio interference protection to broadcast and MMDS-ITFS analog television stations.

My concern is the multitude of RFID interrogation stations and RFID tag transponders running about + 5 dBM and -3 dBM power would cause interference to my user stations trying to access the repeater. I calculated D/U ratios in the range of -17 to 28 dB for base stations depending on their distance from the repeater and RFID tag stations. Most of my users run 5 to 20 watts and one of my users runs 200 watts. Most stations use a yagi antenna with about 14 dB gain. A few stations have mobile video with a 10 watt transmitter and 3 dB mobile antenna. The D/U ratio for mobile stations is far worse. I do not agree with the Savi comments and study of the ARRL's comments. I ran the path loss calculations and find that the 1 km and .1 km dBM levels are about 32 dB low, this is a serious flaw in engineering and is misleading to the interference that would take place should the Commission grant RM-10051.

Impact of Amateur TV Stations to the proposed RFID tag systems

Amateur Stations usually between 5 to 200 watt TV transmitters on 434 MHz and most use directional high gain antennas. The RF energy in front of the amateur station's antenna (co-channel with the proposed RFID tag system) would cause the RFID tags to stop communication with its interrogation station several miles away. My repeater users are all over the Phoenix valley and would produce paths of unusable operation for the RFID tag systems in the valley.

My Conclusions

Most of the Commission's review of part 15 rules is sound; RM-10051 is not and would cause harmful interference to Amateur Radio and Amateur Television operations between 425-435 MHz portions of the amateur band. The co-channel 434 MHz and the proposed Savi RFID tag system are clearly not compatible. The idea of greater distance on RFID tags is a good one but other part 15 bands like 915 MHz already allow for the power and duration needed to manufacture RFID tags that would communicate over longer distances on a more efficient manner.

Respectfully submitted,

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March 11, 2002